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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,757	10/18/2001	Carol T. Schembri	10004108-1	7503

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AGILENT TECHNOLOGIES, INC.
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EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,757

Applicant(s)

SCHEMBRI ET AL.

Examiner

BJ Forman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-20, 22-24 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 10, 12-18, 20, 22-24 and 26-28 is/are rejected.
- 7) ☒ Claim(s) 8 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL ACTION

Status of the Claims

1. This action is in response to papers filed 9 September 2005 in which claims 8 and 19 were amended and claims 27-28 were added. All of the amendments have been thoroughly reviewed and entered.

For support of the subject matter of new claims 27-28, Applicant points to page 13, lines 25-26. The cited passage does not teach the newly claimed bonding layer. However, page 14, lines 1-2 provide support for the new claims.

The previous rejections in the Office Action dated 13 June 2005 under 35 U.S.C. 112, first paragraph, lack of enablement are withdrawn in view of the amendments. The previous rejections under 35 U.S.C. 112, first paragraph, new matter are maintained. The previous rejections under 35 U.S.C. 103(a) are maintained. Applicant's arguments have been thoroughly reviewed and are discussed below. New grounds for rejection, necessitated by amendment, are discussed.

Claims 1-10 12-20 22-24 26-28 are under prosecution.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

First paragraph of 35 U.S.C. 112: New Matter

3. Claims 1-10, 12-20, 22-24 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

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one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The term “continuous” is recited independent claims 1 and 14 (from which all other claims depend). The term is used in the claims to define the glass layer. Applicant points to page 9, lines 3-5 wherein the “web” is described. The cited passage describes “Hybridizing Conditions” but does not describe a “web”. However, the passage at lines 8-10 describes that a “web references a long continuous piece of substrate material having a length greater than a width.” The passage defines a web as a substrate. In other words, a web is one example and/or one component of the substrate. It is noted that the passage does not define the substrate as a web, nor does the passage define the substrate as elongated. In contrast, the passage merely defines the “web”. The passage does not definitively define the substrate as is evidenced by Applicant’s second citation for the substrate definition. Applicant cites page 4 lines 20-21 for a definition of the substrate. The passage does not define the substrate as asserted. However, page 4, line 19 provides a preferred embodiment of the “assembly” i.e. “assembly has a base layer, a further layer of another material (such as a glass layer) forward of the base layer”. Taken together, the specification defines a “web” as a example of a substrate or one of the substrate components and defines the substrate as including a glass layer. Applicant further points to Fig. 3, element 14d for an illustration of a continuous glass layer. The illustration is noted. The specification, page 5, line 22-24, states

“FIG. 2 is an enlarged view of a portion of FIG. 1 showing multiple ideal spots or features;

“FIG. 3 is an enlarged illustration of a portion of FIG. 2”.

As define by the specification, the glass layer illustrated in Fig. 3 is a portion of the assembly illustrated in Fig. 1. Figure 1 illustrates multiple, individual, discontinuous arrays (12). While Fig. 3 illustrates a glass layer, taken together, figures 1-3 do not illustrate a continuous glass layer as claimed.

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The specification provides examples of an elongated web substrate and teaches that a substrate may have a glass layer. The specification does not teach (or illustrate) a glass layer is continuous, the specification does not teach (or illustrate) a glass layer covers the entire substrate, the specification does not definitively define (i.e. require) the substrate be elongated or an elongated web. Therefore, the recitation of "continuous glass layer" is deemed new matter.

It is suggested that the claims be amended to describe the glass layer as defined in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 9-10, 12-17, 20, 22-24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (U.S. Patent Application Publication No. 2001/0051714, filed 10 January 2001) in view of Giaver (U.S. Patent No. 3,979,184, issued 7 September 1976) or Dickinson (WO 01/18524, published 15 March 2001).

Regarding Claim 1, Chen et al disclose a flexible array assembly (Abstract) comprising a plastic base layer a glass layer forward of the base plate and a metallic layer sandwiched between the glass and plastic layers (§ 66), and an array of polymers having a pattern of features on a front (upper) surface of the glass (§ 57). Chen et al do not specifically teach the

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light-blocking property of the metallic layer. However, intervening metallic layers having light blocking properties were well known and routinely practiced in the art at the time the claimed invention was made as taught by Giaver and Dickenson.

Giaver teaches a similar assembly comprising a plastic base, a glass layer over the plastic and an intervening metallic layer wherein the metallic layer is "non-transparent" (Column 2, lines 51-57 and Fig. 1) wherein the layered assembly produces "very good" interference colors from visible light and high index of refraction (Column 4, lines 10-20).

Dickenson also teaches a similar assembly comprising a plastic base layer e.g. plastics or optical fiber bundles (page 10, line 32), a glass layer forward of the base plate i.e. glass microspheres (page 16, lines 7 and 10), an array of polymers having a pattern of features on a front surface of the glass i.e. biopolymers immobilized on the arrayed microspheres (page 8, lines 15-22) and a layer between the base and glass layers that blocks illuminating light from reaching the plastic base (page 11, lines 18-25) and wherein the array assembly is flexible i.e. fiber optic bundles (page 10, line 32) wherein the metallic coating provides for more efficient signal collection (page 11, lines 18-19).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the metallic layers of Giaver and/or Dickenson to the metallic layer in the assembly of Chen. One of ordinary skill in the art would have been motivated to do so for the expected benefit of more efficient signal collection as taught by Dickenson (page 11, lines 18-10) and/or for the "very good" interference colors from visible light and high index of refraction as taught by Giaver (Column 4, lines 10-20).

Regarding Claim 2, Chen et al disclose the array wherein the polymers are biopolymers (§ 58).

Regarding Claim 3, Chen et al disclose the array assembly further comprising an opaque (metallic) layer between the base and glass layers (§ 66, lines 9-15) and Giaver teaches the metallic layers are opaque i.e. non-transparent (Abstract).

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Regarding Claim 4, Chen et al disclose the array assembly further comprising a reflective (metallic) layer between the base and glass layers (§ 66, lines 9-15) and Dickinson defines the metallic layer as reflective (page 11, lines 18-25).

Regarding Claim 5, Chen et al disclose the array wherein the reflective layer comprises a metal (§ 66, lines 9-15).

Regarding Claim 6, Chen et al disclose the array wherein the reflective layer comprises dielectric material as defined by Giaver who also teach the reflective layer comprises layers of dielectric materials (Column 3, lines 11-47).

Regarding Claim 9, the claimed assembly is defined as having a base layer that absorbs at least 10% of light at 532 nm. The recitation describes functional aspects of the layer but does not describe structural components. Because the claim does not further limit the structures of Claim 4 and because Chen discloses the structural limitations recited in Claim 4, Chen also disclose the assembly as claimed.

The courts have stated that claims drawn to an apparatus must be distinguished from the prior art in terms of structure rather than function see *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA1959). “[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (see MPEP, 2114).

Regarding Claim 10, Chen et al disclose the assembly further comprising an identifier on the back of the base layer (§ 118).

Regarding Claim 12, Chen et al disclose the assembly is in the form of an elongated web i.e. elongated (e.g. § 77). It is noted that the claim requires the assembly to “in the form of an elongated web”. The claim does not require the assembly be a web, but merely in the form of an elongated web. Chen et al teach their assembly is elongated (e.g. Fig. 1, 3, 4).

Regarding Claim 13, Chen et al disclose the assembly comprising multiple arrays along the front surface (§ 57, lines 1-6).

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Regarding Claim 14, Chen et al disclose a method of fabricating an array assembly using a with a glass layer bound thereto (§ 66) and a metallic layer sandwiched between the glass and plastic layers (§ 66), and an array of polymers having a pattern of features on a front (upper) surface of the glass (§ 57). Chen et al do not specifically teach the light-blocking property of the metallic layer. However, intervening metallic layers having light blocking properties were well known and routinely practiced in the art at the time the claimed invention was made as taught by Giaver and Dickenson.

Giaver teaches a similar assembly comprising a plastic base, a glass layer over the plastic and an intervening metallic layer wherein the metallic layer is “non-transparent” (Column 2, lines 51-57 and Fig. 1) wherein the layered assembly produces “very good” interference colors from visible light and high index of refraction (Column 4, lines 10-20).

Dickenson also teaches a similar assembly comprising a plastic base layer e.g. plastics or optical fiber bundles (page 10, line 32), a glass layer forward of the base plate i.e. glass microspheres (page 16, lines 7 and 10), an array of polymers having a pattern of features on a front surface of the glass i.e. biopolymers immobilized on the arrayed microspheres (page 8, lines 15-22) and a layer between the base and glass layers that blocks illuminating light from reaching the plastic base (page 11, lines 18-25) and wherein the array assembly is flexible i.e. fiber optic bundles (page 10, line 32) wherein the metallic coating provides for more efficient signal collection (page 11, lines 18-19).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the metallic layers of Giaver and/or Dickenson to the metallic layer in the assembly method of Chen. One of ordinary skill in the art would have been motivated to do so for the expected benefit of more efficient signal collection as taught by Dickenson (page 11, lines 18-10) and/or for the “very good” interference colors from visible light and high index of refraction as taught by Giaver (Column 4, lines 10-20).

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Regarding Claim 15, Chen et al disclose the method wherein the intervening layer comprising a reflective (metallic) layer (¶ 66, lines 9-15) and Dickinson defines the metallic layer as reflective (page 11, lines 18-25).

Regarding Claim 16, Chen et al disclose the array wherein the reflective layer comprises a metal (¶ 66, lines 9-15).

Regarding Claim 17, Chen et al disclose the array wherein the reflective layer comprises dielectric material as defined by Giaver who also teach the reflective layer comprises layers of dielectric materials (Column 3, lines 11-47).

Regarding Claim 20, Chen et al disclose the assembly further comprising an identifier on the back of the base layer (¶ 118).

Regarding Claim 22, Chen et al disclose the method wherein assembly is in the form of an elongated web i.e. elongated (e.g. ¶ 77). It is noted that the claim requires the assembly to “in the form of an elongated web”. The claim does not require the assembly be a web, but merely in the form of an elongated web. Chen teach their assembly is elongated (e.g. Fig. 1, 3, 4).

Regarding Claim 23, Chen et al disclose the method wherein multiple arrays are formed by depositing drops onto the front surface of the glass layer wherein the drops contain polymers or polymer precursors (e.g. Fig. 3 and ¶ 80, 97 and 117).

Regarding Claim 24, Chen et al disclose the method wherein the polymers are polynucleotides or peptides (¶ 80).

Regarding Claim 26, Chen et al disclose the method wherein the layer between the base and glass layers is opaque (i.e. metallic, ¶ 66, lines 9-15) and Giaver teaches the metallic layers are opaque i.e. non-transparent (Abstract).

Regarding Claim 27, Chen et al disclose the assembly wherein a metallic layer sandwiched between the glass and plastic layers (¶ 66) but they are silent regarding a bonding layer between the metal and plastic. However, Giaever teach a similarly layered assembly

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wherein they teach that the metal layer must remain “firmly adhered to the substrate” with change of temperature (Column 3, lines 24-29). This clearly suggests that the metal be bonded to the base layer. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply an adhering layer between the metal and base layers of Chen et al. One of ordinary skill in the art would have been motivated to do so based on the teaching of Giaever and for the expected benefit of keeping the metal “firmly adhered to the substrate” as taught by Giaever (Column 3, lines 24-29).

Regarding Claim 28, Chen et al disclose the method wherein a metallic layer sandwiched between the glass and plastic layers (§ 66) but they are silent regarding a bonding layer between the metal and plastic. However, Giaever teach a similarly layered assembly wherein they teach that the metal layer must remain “firmly adhered to the substrate” with change of temperature (Column 3, lines 24-29). This clearly suggests that the metal be bonded to the base layer. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply an adhering layer between the metal and base layers of Chen et al. One of ordinary skill in the art would have been motivated to do so based on the teaching of Giaever and for the expected benefit of keeping the metal “firmly adhered to the substrate” as taught by Giaever (Column 3, lines 24-29).

Response to Arguments

6. Applicant asserts that Chen et al in view of Giaever or Dickinson do not anticipate the claimed invention because Giaever (col. 2, lines 58-60) teaches the metallic layer may be transparent. Applicant's assertion is noted but is not found persuasive because while the cited passage teaches a transparent layer of metal, that transparent layer is a second layer over a first non-transparent metal layer (col. 2, lines 51-60). Therefore, taking the cited passage as a whole, Giaever teaches non-transparent metal layers. Furthermore, as stated above and reiterated from the previous office action, Giaever teaches the advantages of providing a non-

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transparent metal layer i.e. wherein the metallic layer is “non-transparent” (Column 2, lines 51-57 and Fig. 1) wherein the layered assembly produces “very good” interference colors from visible light and high index of refraction (Column 4, lines 10-20).

The above rejection is over Chen et al in view of Giaever or Dickinson. Applicant has not addressed or traversed Dickinson.

7. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (U.S. Patent Application Publication No. 2001/0051714, filed 10 January 2001).

Regarding Claims 7 and 18, Chen et al disclose an array assembly and method of making the assembly comprising a plastic base layer a glass layer forward of the base plate (§ 66), and an array of polymers having a pattern of features on a front (upper) surface of the glass (§ 57) wherein the substrate has a thickness (diameter) of 125µ m and teaches that other diameters are available (§ 68) but they do not specifically teach a thickness of 40 to 200nm.

However, the courts have stated that “where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.” *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Therefore, the claimed thickness does not distinguish the instant invention over the glass layer of Chen et al because one of ordinary skill in the art would have expected the glass layers to perform equally. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the glass thickness of Chen et al based on their suggestion to do so (§ 68) for the obvious benefits of optimizing the thickness to thereby optimize results.

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It is noted that *In re Aller*, 220 F.2d 454,456, 105 USPQ 233,235 states where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum by routine experimentation.

Response to Arguments

8. Applicant asserts that because Chen et al do not teach the light blocking layer of Claims 1 and 14, the cited art cannot obviate claims 7 and 18. The argument has been considered but is not found persuasive for the reasons stated above regarding Chen et al in view of Giaever or Dickinson

Allowable Subject Matter

9. Claims 8 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. No claim is allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.



BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
November 22, 2005